

REMARKS

Claims 10 and 15-17 have been canceled.

Claims 9, 11-14, and 16-21 are pending in the application.

Reconsideration of the rejection of claims 9-12 and 15-17 under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,823,846 to Mattes is respectfully requested.

Claim 9 is directed to fuel injection system for an internal combustion engine, the system comprising:

a high-pressure side including at least one high-pressure reservoir in which fuel is stored at injection pressure and at least one injector communicating with the high-pressure reservoir, for fuel injection to a cylinder of the engine ;

a low-pressure side which communicates at least indirectly with a fuel tank ;

a communication between the high-pressure side and the low-pressure side, which communication is controlled as a function of the fuel temperature in the high-pressure side, the communication being at least substantially closed at a high fuel temperature so that the high-pressure side is disconnected from the low-pressure side, and the communication being open at a low fuel temperature; and

a valve device controlling the communication of the high-pressure side with the low-pressure side, wherein the valve device is disposed in a component in the high-pressure side, such that an inlet of the valve device is at high pressure.

Mattes discloses a fuel injection system having high-pressure pump 10, feed pump 16, high-pressure reservoir 12, injectors 20, low pressure reservoir 50, tank 14, return 66, and valve 64 between the high-pressure side 12 and the low-pressure side 50, 66.

Applicant disagrees with the examiner's position because of the essential distinctions of the invention over the references cited. In the Mattes reference, a high-pressure reservoir 12 and a low-pressure reservoir 50 are provided. The pressure prevailing in the high-pressure reservoir 12 is adjusted by an electrically controlled pressure regulating valve 60. Thus by means of the pressure regulating valve 60, a connection of the high-pressure reservoir 12 with a low-pressure region is controlled. In addition, in the outlet 62 from the pressure regulating valve 60, there is a temperature-dependently controlled valve 64, by which the fuel quantity, diverted from the high-pressure reservoir 12 by the pressure regulating valve 60, is either delivered to the low-pressure reservoir 50 or carried via the return 66 to the tank 14. At a low fuel temperature, the quantity of fuel diverted via the pressure regulating valve 60 is delivered through the valve 64 to the low-pressure reservoir 50, and at a high fuel temperature, the fuel quantity is carried through the valve 64 to the tank 14. In the Mattes reference, there is accordingly no valve by which as a function of temperature a connection of the high-pressure reservoir 12 with a low- pressure region is controlled in such a way that at a high fuel temperature the connection is closed and at a low fuel temperature it is opened. In the Mattes reference, the connection of the high-pressure reservoir 12 with the low-pressure region is controlled solely by the electrically controlled pressure regulating valve 60.

Therefore, Applicant believes that the present invention is not rendered obvious by Mattes, and the current claims are distinguishable over the prior art. Therefore, withdrawal of the rejection and allowance of the application is respectfully requested.

Reconsideration of the rejection of claims 9-12 and 15-17 under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,911,208 to Furusawa et al in view of US Patent No. 4,478,179 to Yasuhara et al is respectfully requested.

Furusawa et al discloses a fuel injection system having feed pump 14, high-pressure pump 35, high-pressure reservoir 55, injectors 56, low-pressure side 39, fuel tank 13, and valve 41 between the high-pressure side 35 and the low-pressure side 39.

Furusawa et al does not teach that the valve 41 is closed at a high fuel temperature so that the high-pressure side is disconnected from the low pressure side, and that the valve 41 is open at a low fuel temperature.

The examiner's interpretation of the content of Furusawa is inaccurate. The passage cited by the Examiner, column 8, lines 50 through 52, says that the response time, that is, the time that the valve 41 requires in order to be opened or closed, is dependent among other factors on the fuel temperature. Hence it is unequivocally not true that the valve 41 opens and closes as a function of the fuel temperature. Instead, what is correct is instead that the valve 41 is opened and closed by the electric control device 60, specifically as a function of the pressure in the high-pressure reservoir 55, which is detected by the pressure sensor 61, and the reaction time that the valve 41 requires in order then to assume its opened or closed state depends on the fuel temperature; that is, with cold, viscous fuel, it is presumably somewhat longer than with hot, highly fluid fuel. The valve 41 in the Furusawa reference thus is precisely equivalent to the pressure regulating valve 60 in the Mattes reference.

In the Yasuhara reference, there is an injection pump, in the inlet of which there is a fuel filter 13. From the injection pump, a return line 17 returns directly back to the tank 11,

and a further return line 18 leads to the fuel filter 13. In the fuel filter 13, there is a valve 19, by which the return line 18 is opened and closed as a function of temperature. With cold fuel, the valve 19 is opened, so that fuel from the return line 18 reaches the filter 13, and with hot fuel, the valve 19 is closed, so that no fuel from the return line 17 reaches the filter 13. The fuel filter 13 with the valve 19 is located in the low-pressure region. Thus from the Yasuhara reference again, no valve is known that as a function of temperature controls a connection of a high-pressure reservoir with a low-pressure region.

Furthermore it is not clear in any of the references that the valve 42 which controls the communication 40 between the high-pressure side and the low-pressure side *is disposed in a component in the high-pressure side*.

Therefore, Applicant believes that the present invention is not rendered obvious by Furusawa when taken alone or in combination with Yasuhara, and the current claims are distinguishable over the prior art. Therefore, withdrawal of the rejection and allowance of the application is respectfully requested.

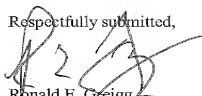
Applicant appreciates the examiner's indication of allowable subject matter in claims 13, 14, and 18-21. Claim 13 has been rewritten in independent form and therefore, should be allowed.

The above amendments are being made to place the application in better condition for examination.

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Entry of the amendment is respectfully solicited.

Respectfully submitted,



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